II. REMARKS

Status of the Claims

Claims 1,2,4-7,11,13,14,16-18 are resubmitted for consideration.

Summary of the Office Action

Claims 1,2,4,5,17 and 18 stand rejected under 35USC103(a) on the basis of the cited reference Felix, et al, U.S. Patent No. 6,233,231. Claims 6,7,11,13,14 and 16 stand rejected under 35USC102(e) based on the cited reference Felix, et al. The Examiner is respectfully requested to reconsider his rejections in view of the following remarks.

A proposed correction to figure 3 is attached for the Examiner's approval.

Responsive Remarks

The Examiner steadfastly adheres to an erroneous interpretation of the disclosure of the cited reference Felix, namely, that code sequence length is related to code rate. This is expressed by the Examiner in the response to arguments of the pending office action, as follows:

> "The Examiner respectfully disagrees, see figure 6, Felix et al discloses step (609,611) of changing data rate to the higher rate by changing to a second OVSF sequence (as a second code sequence) ***having a second code rate that is higher than said first code rate wherein the second OVSF sequence has its code symbol period "code length", namely, the inverse of its code rate,*** shorter than the first OVSF sequence's code symbol period "code length"; (see step ((611) shown in figure 6, (specially, see col. 8, lines 56-61)). Further, the claims do not have other limitations to make the limitation "code rate" distinguishable from Felix et al code rate." [emphasis added]

Applicant respectfully submits that this is technically

incorrect. Code rate is not related to code length, therefore, it does not follow that changing code **length** according to Felix results in a change in **code** rate. However, data rate is related to code length and this is the basis of the teaching of Felix. Felix adjusts code length to maximize data rate. This is stated in column 2, lines 41-45, as follows:

> **"The method comprises the steps of determining an amount of data to be transmitted to a remote unit and assigning the remote unit a first Orthogonal Variable Spreading Factor (OVSF) code having a length based upon the amount of data to be transmitted to the remote unit."**

In spite of the Examiner's suggestions, there is no indication of changing code rate anywhere in the disclosure of Felix. In fact the only reference to code rate is that it is fixed, see column 6, lines 36-42, as follows:

> **"In the preferred embodiment of the present invention, spread sequences 326 are output at a rate of 4.096 Mega Chips per second (Mcps) and radiated within a 5 MHz bandwidth, but in alternate embodiments of the present invention, spread sequences 326 may be output at a different rate and radiated within a different bandwidth."**

If, as the Examiner indicates, there is a changing code rate, one would expect this to be mentioned by Felix, et al, at this point. Yet the disclosure remains silent. This is because the relationship between code rate and code length is not as the Examiner has stated.

Applicant respectfully submits the following description of the general technical aspects of the subject application. A spread spectrum (SS) communication system is one in which the transmitted frequency spectrum or bandwidth is much wider than absolutely necessary. Wideband frequency modulation (FM) is an

example of an analog SS communication system. With regard to a digital SS communication system, the transmission bandwidth required by the baseband modulation of a digital signal is expanded to a wider bandwidth by using a much faster switching rate than used to represent the original bit period. Operationally, prior to transmission, each original data bit to be transmitted is converted or coded to a sequence of "sub bits" often referred to as "chips" (having values of zero or one) in accordance with a conversion algorithm. The coding algorithm is usually termed a spreading function. Depending on the spreading function, the original data bit may be converted to a sequence of five, ten, or more chips. The rate of transmission of chips by a transmitter is defined as the "chipping or code rate"

According to the reference Felix, the code rate or spreading sequence rate is fixed at a value of 4.096 Mcps. If the length of the spreading sequence is 16, as suggested at column 6, line 62, for high data volume, the corresponding data rate is 4,096,000/16 = 256,000 symbols per second (ksps). If the length of the OVSF code is changed to 128, as suggested at column 6, line 64, for low data volume, then the corresponding data rate is 4,096,000/128 = 32,000 symbols per second (ksps), which is a slower data rate. Hence, the symbol (data) rate changed and the OVSF code length changed, but the code rate did not. This is clearly what Felix et al are stating (especially, see col. 8, lines 39-44).

In the subject application, orthogonal spreading codes are not assumed, but, contrary to the system of Felix, a **CONSTANT** data rate is assumed. A lower code rate (slower spreading sequence clock) is used to do faster signal acquisition and then a switch is made to a higher code rate (faster spreading sequence clock)

to provide a greater protection from signal detection/interception.

The differences between the disclosure of the reference Felix and the subject invention, therefore, are significant and are defined in the claims under consideration. The Examiner's statement that the subject claims do not distinguish over the code rate of Felix is not understood. There is only one suggested code rate in Felix, whereas, the claims of this application clearly indicate that a change in code rate is used. This feature is not found in Felix.

The teaching of Felix, therefore, fails to support the rejections based either on obviousness or anticipation.

SUMMARY

In view of the remarks stated above, Applicant submits that all of the claims under consideration contain patentable subject matter and favorable action by the Examiner is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

A check in the amount of $1,020.00 is enclosed for a three month extension of time. The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,

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